

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (*Currently amended*) An optical transmission WDM-system comprising:
a transmitting side and a receiving side and an optical fiber link connecting the transmitting and receiving sides, high-priority information being transmitted in the optical fiber link from the transmitting side to the receiving side in a plurality of wavelength bands, the wavelength bands having different transmission characteristics and transmission characteristics varying with time, in particular different polarization mode dispersions or polarization mode dispersions varying with time;
a first switch connected at the transmitting side for transmitting the high-priority information in a number of the wavelength bands which is smaller than a total number of wavelength bands;
a quality determining device connected at the receiving side for determining the quality of transmission in each of the wavelength bands and for providing signals representing determined quality values for each of the wavelength bands; and
a controller connected to the quality determining device for receiving the determined quality values and to the first switch for at each instant selecting the wavelength bands used for transmitting the high-priority information to give a sufficient ~~total~~ quality of the transmission of the high-priority information.

2. (*Canceled*).

3. (*Currently amended*) An optical transmission WDM-system according to claim

1, further comprising:

~~a second switch at the receiving side coupled to the controller, for receiving transmitted information;~~

wherein the first ~~and second switches~~ switch ~~correspond~~ corresponds to a first cross-connect element connected at the transmitting side and ~~a second cross-connect element connected at the receiving side, respectively,~~ the first cross-connect element having one output terminal for each of the plurality of wavelength bands and ~~the second cross-connect element having one input terminal for each of the plurality of wavelength bands.~~

4. (*Currently amended*) An optical transmission WDM-system according to claim

3, wherein the first cross-connect ~~elements are~~ element is arranged to switch electrical signals.

5. (*Currently amended*) An optical transmission WDM-system according to claim

3, wherein the first cross-connect ~~elements are~~ element is arranged to switch optical signals.

6. (*Previously presented*) An optical transmission WDM-system according to claim 1, wherein the first switch includes tuneable electro-optical transmitters.

7. (*Previously presented*) An optical transmission WDM-system according to claim 1 for also transmitting low-priority information on the optical fiber link, wherein

the controller is arranged to select the wavelength channels not used for transmitting the high-priority information for transmitting the low-priority information.

8. (*Previously presented*) An optical transmission WDM-system according to claim 1, further comprising compensators for compensating polarization mode dispersion arranged for each wavelength channel used and connected at one end of the fiber optical link.

9. (*Currently amended*) A method of transmitting in a plurality of wavelength bands high-priority information over an optical fiber link connecting a transmitting side to a receiving side, comprising:

transmitting light signals in the optical fiber link in the wavelength bands, the wavelength bands having different transmission characteristics and transmission characteristics varying with time, in particular different polarization mode dispersions or polarization mode dispersions varying with time,

determining, at the receiving side, values representing the quality of transmission in each of the wavelength bands and using the determined values for each of the wavelength bands in the selecting of wavelength bands, and

selecting at each instant wavelength bands, based on the determined values, for transmitting the high-priority information, the number of the selected wavelength bands being smaller than the total number of wavelength bands, using only the selected wavelength bands for transmitting the high-priority information in the optical fiber link,

the selecting of the wavelength bands being made to give a sufficient ~~total~~ quality of the transmission of the high-priority information.

10. (*Canceled*).

11. (*Currently amended*) A method according to claim 9, wherein in the selecting, at the transmitting side, incoming electrical signals arriving at electrical input lines are switched to the selected wavelength bands and, ~~at the receiving side, the signals received in the selected wavelength bands are switched to electrical output lines carrying electrical output signals.~~

12. (*Currently amended*) A method according to claim 11, wherein the switching in ~~at least one of the transmitting and receiving sides~~ side is made by switching electrical signals.

13. (*Currently amended*) A method according to claim 11, wherein the switching in ~~at least one of the transmitting and receiving sides~~ side is made by switching optical signals.

14. (*Previously presented*) A method according to claim 9, wherein at the transmitting side, the wavelength bands are selected by controlling tuneable optical transmitting elements.

15. (*Previously presented*) A method according to claim 9, further comprising compensating for polarization mode dispersion for each wavelength channel used, at one end of the fiber optical link.

16. (*New*) An optical transmission WDM-system according to claim 1, further comprising:

a second switch at the receiving side coupled to the controller, for receiving transmitted information, the first switch corresponding to a second cross-connect element connected at the receiving side, the second cross-connect element having one input terminal for each of the plurality of wavelength bands.

17. (*New*) An optical transmission WDM-system according to claim 16, wherein the second cross-connect element is arranged to switch electrical signals.

18. (*New*) An optical transmission WDM-system according to claim 16, wherein the second cross-connect element is arranged to switch optical signals.

19. (*New*) A method according to claim 9, wherein, at the receiving side, the signals received in the selected wavelength bands are switched to electrical output lines carrying electrical output signals.

20. (*New*) A method according to claim 19, wherein the switching in the receiving side is made by switching electrical signals.

21. (*New*) A method according to claim 19, wherein the switching in the receiving side is made by switching optical signals.